**European Patent Application**

**EUROPEAN PATENT APPLICATION**

<table>
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<tr>
<th>Date of publication A3:</th>
<th>18.06.2014 Bulletin 2014/25</th>
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<tr>
<td>Date of publication A2:</td>
<td>25.01.2012 Bulletin 2012/04</td>
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<tr>
<td>Application number:</td>
<td>11164905.9</td>
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<td>Date of filing:</td>
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**Designated Contracting States:**
- AL
- AT
- BE
- BG
- CH
- CY
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- DK
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- LU
- LV
- MC
- MK
- NL
- NO
- PL
- PT
- RO
- RS
- SE
- SI
- SK
- SM
- TR

**Designated Extension States:**
- BA
- ME

**Priority:**
- 09.07.2010 US 833292

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**Int Cl.:**
- G01G 19/02 (2006.01)
- G01G 23/37 (2006.01)
- G01M 1/12 (2006.01)

**System and method for detection of concealed cargo in a vehicle by center of mass measurement**

A system and computer-implemented method for detecting concealed cargo and/or concealed passengers in a vehicle includes obtaining weight distribution data for the vehicle; obtaining vehicle loading data; measuring a center of mass of the vehicle to obtain an actual center of mass position of the vehicle; and executing one or more computer program modules configured to determine a predicted center of mass position of the vehicle using the obtained vehicle loading data and the obtained weight distribution data of the vehicle; compare the actual center of mass position of the vehicle with the predicted center of mass position of the vehicle; and provide a signal if the actual center of mass position of the vehicle departs from the predicted center of mass position of the vehicle by at least a predetermined threshold, the signal being representative of concealed cargo and/or concealed passengers in the vehicle.

![Diagram](image-url)
# DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document with indication, where appropriate, of relevant passages</th>
<th>Relevant to claim</th>
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<tbody>
<tr>
<td></td>
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**TECHNICAL FIELDS SEARCHED (IPC)**
- G01G
- G01M
- G08B
- G01V

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The present search report has been drawn up for all claims

Place of search: The Hague  
Date of completion of the search: 9 May 2014  
Examiner: Koch, Florian

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**CATEGORY OF CITED DOCUMENTS**
- T: theory or principle underlying the invention  
- E: earlier patent document, but published on, or after the filing date  
- D: document cited in the application  
- L: document cited for other reasons  
- A: technological background  
- O: non-written disclosure  
- P: intermediate document  
- &: member of the same patent family, corresponding document
This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The annex is not intended to be comprehensive and may not contain all available information. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

09-05-2014

<table>
<thead>
<tr>
<th>Patent document cited in search report</th>
<th>Publication date</th>
<th>Patent family member(s)</th>
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<tbody>
<tr>
<td>US 5449864 A</td>
<td>12-09-1995</td>
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For more details about this annex: see Official Journal of the European Patent Office, No. 12/82